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Jurgen Specht

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FULBRIGHT & JAWORSKI, LLP
666 FIFTH AVE
NEW YORK, NY 10103-3198

EXAMINER

ZHENG, LOIS L

ART UNIT

PAPER NUMBER

1793

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05/04/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,006	Applicant(s) SPECHT ET AL.	
	Examiner LOIS ZHENG	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 62-88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 41-61 are canceled in view of applicant's response filed 11 January 2010. New claims 62-87 are added. However, two claim 87's were added in applicant's claim amendment filed 11 January 2010, one depending on claim 81 while the other depending on claim 85. The examiner assumes a typographical error occurred with numbering of the new claims and will treat the second claim 87 as new claim 88.

Therefore, claims 62-88 are currently under examination.

Status of Previous Rejections

2. The rejection of claims 41 and 60 under 35 U.S.C. 112, second paragraph, is withdrawn in view of applicant's cancellation of claims 41 and 60.
3. The provisional rejection of claims 41-61 the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 41-75 of copending Application No. 10/467,850 is withdrawn since copending Application No. 10/467,850 is now abandoned.

Claim Objections

4. Claims 62, 81 and 86 are objected to because of the following informalities:

The claimed limitation of combined sodium and potassium content being in a range of 0.3-1.8g/l appears to be recited twice in each of the claims 62, 81 and 85, once in lines 5-6, 8-9 and 6-7 of these claims respectively, and another time at the ends of each of these claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 83-84 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In this case, the instant specification does not provide literal support for the claimed process being a continuous one.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 62-82 and 85-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehmecker et al. US 6,168,674 B1(Gehmecker).**

Gehmecker teaches a process for phosphating a metal surface that is at least partially aluminized(col. 2 lines19-24) with a aqueous, acidic coating solution comprising 0.4-2.0g/l of Zn, 7-25g/l of P₂O₅, 0.01-0.1g/l of H₂O₂, 0.3-2.5g/l of formate, up to 30g/l of nitrate, up to 3g/l of Mn, Mg, Ni, up to 0.03g/l of Cu, up to 1.5g/l of simple fluoride, up to

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3g/l of fluoroborate, up to 3g/l of fluorosilicate(claims 1-14, col. 1 lines 59-67, col. 2 lines 1-11 & 60-63, col. 3 lines 5-36), The coating solution of Gehmecker has a pH of 3.6-5.0 (claim 8) and a free acid value ranges from 0.5 to 2.5(claim 1). The Examples of Gehmecker further disclose coating solutions having free acids of 0.7 and 1.6 points, total acids of 23 and 25 points, and coating weights of 2.2g/m^2 and 2.5g/m^2 (Tables in col. 5). Gehmecker further teaches that the coating temperature ranges from 30-65°C(col. 3 lines 37-38).

Regarding claims 62-79 and 81-82, Gehmecker further teaches that formate can be added as alkali formate(col. 3 lines 50-52), which implies the presence of Na and/or K concentrations. In addition, Solutions A and C as shown in Examples 1-2 of Gehmecker further teaches a formate ions concentration of 1g/l, implying an alkali ion concentration that is 0.338g/l if sodium is used or 0.465g/l if potassium is used, which falls within the claimed combined sodium and potassium concentration ranges of 0.3 to 1.8 g/l as recited in claims 62 and 81 as well as sodium and potassium concentration ranges recited in claims 66-67. Therefore, the coating components in the coating solution of Gehmecker have concentrations that either read on the claimed concentrations or significantly overlap the claimed concentrations. The pH and the free acid ranges in the coating solution of Gehmecker also overlap the claimed pH and the claimed free acid ranges. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating component concentration ranges, pH and free acid ranges from the disclosed ranges of Gehmecker would have been obvious

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to one skilled in the art since Gehmecker teaches the same utilities in its' disclosed coating component concentration ranges, pH and free acid ranges.

With respect to the precipitation from an Al-F complex as amended in claims 62 and 81, Gehmecker does not teach any precipitation products from an Al-F complex. In addition, Gehmecker's coating solution is substantially the same as the claimed coating solution. Therefore, the examiner concludes that the precipitation products from an Al-F complex in the coating produced by the process of Gehmecker would have been scarce, if any, as claimed.

Regarding claim 80, one of ordinary skill in the art would have found it obvious to have applied the process of Gehmecker to any aluminum metal surfaces of any metal body, including the claimed automobile, aircraft, sheet, wire mesh and small plant, with a reasonable expectation of success.

Regarding claim 85, the instant claim is mostly rejected for the same reasons set forth in the rejection of claims 62 and 81 above. In addition, the instant claim uses semi-open transitional phrase "comprising essentially of" which allows the presence of additional coating components, even in significant amounts, as long as the additional coating components do not materially affect the basic and novel characteristics of claimed invention. It is well settled that if an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional components would materially change the characteristics of applicant's invention. In re De Lajarte,

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337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also Ex parte Hoffman, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989). See MPEP 2111.03 [R-2].

Regarding claims 86-88, since Schubach teaches that its process can be applied to aluminum surfaces, one of ordinary skill in the art would have realized that the precipitate, if any, formed in the Schubach's process when working with aluminum surfaces would have included cryolite as claimed.

9. Claims 62-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schubach et al. US 6,497,771 B1(Schubach).

Schubach teaches a process for phosphating a metal surface, such as aluminum and aluminum alloys with a aqueous, acidic coating solution comprising 0.3-5g/l of Zn, wherein the ratio of Zn/P₂O₅ is 1:5-1:18, 0.1-1.5g/l of nitroguanidine, 0.1-0.4g/l of hydroxylamine, 0.5-20g/l of nitrate, 0.01-3g/l of Mn, 0.01-3g/l of Ni, 1-100mg/l of Cu, 0.01-3g/l of simple fluoride, 0.05-2.5g/l of complex fluoride such as fluoroborate and/or fluorosilicate(claims 1-12, abstract, col. 2 line 58 – col. 3 line 23, col. 3 lines 45-57), The coating solution of Schubach has a pH of 2-4 (col. 4 line 40). The Examples of Schubach further disclose free acids ranging from 2.2-2.4 points, total acids ranging from 21-25.7 points, and coating weight ranges from 2.0-8.0g/m²(Table in col. 6). Schubach further teaches that the coating temperature ranges from 15-70°C(claim 9).

Regarding claims 41-58 and 60-61, Schubach further teaches that the nitrate can be added as alkali nitrate(col. 3 lines 10-11), which implies the presence of Na and/or K. Since nitrate ions may be present in an amount of 0.5-20g/l, the corresponding alkali ion concentration would have been 0.185-7.42g/l of Na is used or 0.315-12.6g/l of K is

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used, which at least overlap the combined sodium and potassium concentration ranges of 0.3 to 1.8 g/l as recited in claims 62 and 81 as well as the sodium and potassium concentration ranges recited in claims 66-67. Therefore, the coating components in the coating solution of Schubach have concentrations that either read on the claimed concentrations or significantly overlap the claimed concentrations. The coating temperature range as taught by Schubach significantly overlaps the claimed coating temperature range. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating component concentration ranges and coating weight ranges from the disclosed ranges of Schubach would have been obvious to one skilled in the art since Schubach teaches the same utilities in its' disclosed coating component concentration and coating weight ranges.

With respect to the precipitation from an Al-F complex as amended in claims 62 and 81, Schubach does not teach any precipitation products from an Al-F complex. In addition, Schubach's coating solution is substantially similar to the claimed coating solution. Therefore, the examiner concludes that the precipitation products from an Al-F complex in the coating produced by the process of Schubach would have been scarce, if any, as claimed.

Regarding claim 80, one of ordinary skill in the art would have found it obvious to have applied the process of Schubach to any aluminum metal surfaces of any metal body, including the claimed automobile, aircraft, sheet, wire mesh and small plant, with a reasonable expectation of success.

Regarding claims 83-84, Schubach further teaches that its process produces uniform layer weight even during continuous operation, which implies a continuous process as claimed.

Regarding claim 85, the instant claim is mostly rejected for the same reasons set forth in the rejection of claims 62 and 81 above. In addition, the instant claim uses semi-open transitional phrase "comprising essentially of" which allows the presence of additional coating components, even in significant amounts, as long as the additional coating components do not materially affect the basic and novel characteristics of claimed invention. It is well settled that if an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also Ex parte Hoffman, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989). See MPEP 2111.03 [R-2].

Regarding claims 86-88, since Schubach teaches that its process can be applied to aluminum surfaces, one of ordinary skill in the art would have realized that the precipitate, if any, formed in the Schubach's process when working with aluminum surfaces would have included cryolite as claimed.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct

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from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 41-61 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 27-32, 38-42 and 44 of copending Application No. 10/555,929(App'929). Although the conflicting claims are not identical, they are not patentably distinct from each other because App'929 teaches a metal phosphating process utilizing a zinc phosphate solution that is substantially the same as the claimed zinc phosphating solution with overlapping component concentration ranges.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

12. Applicant's arguments filed 11 January 2010 have been fully considered but they are not persuasive.

In the remarks, applicant argues that Gehmecker discloses "partially aluminized" metal surfaces, not a metal surface comprising at least 5wt% of Al/Al alloy as claimed.

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Gehmecker only shows example with steel surfaces, not Al/Al alloy surfaces, therefore, Gehmecker does not teach Al-F complex precipitate.

The examiner does not find applicant's argument convincing because Gehmecker teaches that its coating solution may be applied to surfaces of aluminized steel or aluminum and the alloys thereof(col. 2 lines 19-24), which reads on the claimed at least 5wt% of Al/Alloy as claimed. In addition, Gehmecker teaches the presence of alkali metals such as sodium and/potassium, and the use of simple/complex fluoride(see paragraph 8 above). Therefore, when applied to Al/Al alloy surfaces, as deem appropriate by Gehmecker, scarcely deposited Al-F complex precipitate could occur as claimed since the ingredients for cryolite is certainly available in the coating solution of Gehmecker when applied to Al/Al alloy surfaces.

Applicant further argues that Gehmecker does not teach a coating process without a precipitation tank as claimed.

The examiner does not find applicant's argument persuasive because Gehmecker is silent with respect to a precipitation tank. The examiner cannot assume that Gehmecker's process involves using a precipitation tank if it is not taught. In addition, Gehmecker does not mention formation of sludge or precipitate, which implies that either sludge/precipitate does not form in the process of Gehmecker or only a minor amount of sludge/precipitate is generated and causes no significant problem to the process of Gehmecker. Therefore, a precipitation tank does not seem to be needed in Gehmecker.

Applicant further argues that Gehmecker teaches a less acidic solution than claimed because of its free acid range.

The examiner does not find applicant's argument persuasive because Gehmecker teaches a free acid of 0.5 to 2.5 points(claim 1), which overlaps the claimed free acid range of 1.6-2.8 points. Example 2 of Gehmecker further discloses a free acid value of 1.6 for Solution C, which reads on the claimed free acid range of 1.6-2.8 points.

Applicant further argues that Schubach does not teach treating a metal surface comprising at least 5wt% of Al/Al alloy.

The examiner does not find applicant's argument convincing because Schubach teaches that its coating process can be applied to Al/Al alloy surfaces(abstract, col. 1 lines 4-9), which reads on the claimed metal surface with at least 5wt% of Al/Al alloy.

Applicant further argues that Schubach does not teach the claimed alkali metal or sodium/potassium contents.

The examiner does not find applicant's argument persuasive. Although Schubach does not explicitly teach a specific total alkali metal content, Schubach does teach that nitrate ions can be added as alkali metal salt. Based on the calculations conducted by the examiner, see paragraph 9 above, the phosphating solution of Schubach would have inherently contains alkali metal ions such as sodium and/or potassium in amounts that overlap the claimed total alkali metal ions or sodium plus potassium ion concentration ranges.

Applicant further argues that Schubach does not teach a coating process without a precipitation tank as claimed.

The examiner does not find applicant's argument persuasive because Schubach is silent with respect to a precipitation tank. The examiner cannot assume that Schubach's process involves using a precipitation tank if it is not taught. In addition, Schubach does not mention formation of sludge or precipitate, which implies that either sludge/precipitate does not form in the process of Schubach or only a minor amount of sludge/precipitate is generated and causes no significant problem to the process of Schubach. Therefore, a precipitation tank does not seem to be needed in Schubach.

13. The declaration under 37 CFR 1.132 filed 6 November 2009 is insufficient to overcome the rejection of existing claims as set forth in the last Office action

In the declaration, Mr. Kolberg describes his experience while participating in R&D work for the Gehmecker and Schubach patents, and the lack of cryolite precipitation during the R&D work for both Gehmecker and Schubach because they were mostly focused on zinc phosphating steel and zinc coated steel surfaces. However, Mr. Kolberg admits that cryolite precipitation had been observed when the substrate comprised higher portion of aluminum.

While the core focus might have been on zinc phosphating steel and zinc coated steel surfaces in Gehmecker and Schubach, the scope of Gehmecker and Schubach are not limited to steel and zinc coated steel only. In fact, both references disclose that their zinc phosphating processes are also suitable for aluminum and aluminum alloy surfaces. See paragraphs 8-9 above. In addition, the examples as shown in Gehmecker and Schubach are merely embodiments of Gehmecker and Schubach, they cannot be construed to limit the scope of Gehmecker's and Schubach's inventions.

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Therefore, the claimed cryolite precipitation would have occurred when the zinc phosphating process of Gehmecker or Schubach is applied to an aluminum or aluminum alloy surface.

Additionally, Mr. Kolberg describes what is the typical sodium and/or potassium concentration in the zinc phosphating art and what is the sodium/potassium concentration in the claimed invention. However, Mr. Kolberg's discussion merely provides background knowledge for the zinc phosphating art, and does not include factual evidence data showing that Gehmecker's and/or Schubach's references do not include claimed amount of sodium and or potassium. The criticality of claimed sodium and/or potassium concentration also has not been shown.

Furthermore, Mr. Kolberg describes the advantages of retarded cryolite precipitation in the claimed coating bath. However, factual evidence data to show lack of cryolite precipitation in Gehmecker's and/or Shubach's coating when applied to aluminum and/or aluminum surfaces has not been provided.

Therefore, the examiner does not consider the declaration is effective.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LOIS ZHENG whose telephone number is (571)272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/ Roy King/

Supervisory Patent Examiner, Art

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